IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A system for monitoring ~~a~~ temperature ~~condition~~ conditions, comprising:

a fiber optic cable;

a light emitting device coupled to said fiber optic cable and configured to input a light pulse into said fiber optic cable;

an optical receiver coupled to said fiber optic cable and configured to receive a reflection signal that arises from said input light pulse in said fiber optic cable; and

a processor configured to determine ~~a temperature condition along~~ temperature conditions on different portions of the fiber optic cable ~~and a location of the temperature condition along the fiber optic cable~~ based on said reflection signal, said determination being based on a comparison performed for each of said different portions of the fiber optic cable.

Claim 2 (Currently Amended): The system of claim 1, wherein said processor is configured to determine said temperature conditions ~~condition and location~~ based on an amplitude ~~and return time~~ of said ~~return~~ reflection signal.

Claim 3 (Currently Amended): The system of claim 1, wherein said comparison is performed with respect to ~~processor is configured to determine said temperature condition based on at least one of~~ a threshold value corresponding to one of said portions ~~and a comparison signal~~.

Claim 4 (Currently Amended): The system of claim 3, wherein said processor is configured to adjust at least one of said threshold value and comparison signal to detect different temperature conditions.

Claim 5 (Currently Amended): The system of claim 1, wherein said processor is configured to determine a location for one of said different portions of the fiber optic cable based on different a return times time of said reflection signal.

Claim 6 (Cancelled)

Claim 7 (Currently Amended): The system of claim 6 34, wherein said processor is configured to adjust each of said corresponding at least one of said threshold value and said comparison signal to detect different temperature conditions among said different portions of the fiber optic cable.

Claim 8 (Currently Amended): The system of claim 1 5, wherein said processor is configured to determine said location by determining at least one of a location relative to an overall length of the fiber optic cable, and an absolute distance from one end of the fiber optic cable.

Claim 9 (Original): The system of claim 1, wherein said processor is configured to determine at least one of a temperature duration and a temperature progression over a predetermined time interval.

Claim 10 (Original): The system of claim 1, further comprising a signal generator configured to initiate at least one of an alarm, a safety measure and a corrective measure.

Claim 11 (Currently Amended): A system for monitoring a temperature ~~condition~~ conditions, comprising:

a fiber optic cable;

means for inputting a light pulse into said fiber optic cable;

means for receiving a reflection signal that arises from said input light pulse in said fiber optic cable; and

means for determining ~~a temperature condition along~~ temperature conditions on different portions of said the fiber optic cable ~~and a location of the temperature condition along the fiber optic cable~~ based on said reflection signal, said means for determining including means for performing a comparison for each of said different portions of the fiber optic cable.

Claim 12 (Currently Amended): The system of claim 11, further comprising means for determining said temperature conditions ~~condition and location~~ based on an amplitude ~~and return time~~ of said ~~return~~ reflection signal.

Claim 13 (Currently Amended): The system of claim 11, further comprising means for determining said temperature ~~condition~~ conditions based on at least one of a threshold value and a comparison signal corresponding to one of said portions.

Claim 14 (Currently Amended): The system of claim 13, further comprising means for adjusting ~~at least one of~~ said threshold value ~~and comparison signal~~ to detect different temperature conditions.

Claim 15 (Currently Amended): The system of claim 11, further comprising means for determining ~~a~~ a location for one of said ~~different~~ portions of the fiber optic cable based on ~~different~~ a return ~~times~~ time of said reflection signal.

Claim 16 (Cancelled)

Claim 17 (Currently Amended): The system of claim ~~16~~ 13, further comprising means for adjusting ~~each of said corresponding at least one of said threshold value and~~ said comparison signal to detect different temperature conditions ~~among said different portions of the fiber optic cable~~.

Claim 18 (Currently Amended): The system of claim ~~11~~ 15, further comprising means for determining said location by determining at least one of a location relative to an overall length of the fiber optic cable, and an absolute distance from one end of the fiber optic cable.

Claim 19 (Original): The system of claim 11, further comprising means for determining at least one of a temperature duration and a temperature progression over a predetermined time interval.

Claim 20 (Original): The system of claim 11, further comprising means for generating a signal to initiate at least one of an alarm, a safety measure and a corrective measure.

Claim 21 (Currently Amended): A computer readable medium containing program instructions for execution on a computer controlled system for monitoring a temperature

~~condition~~ conditions, which when executed by the system, cause the system to perform the

following steps:

input a light pulse into a fiber optic cable of the system;

receive a reflection signal that arises from said input light pulse in said fiber optic

cable; and

determine ~~a temperature condition along~~ temperature conditions on different portions

of the fiber optic cable ~~and a location of the temperature condition along the fiber optic cable~~

based on said reflection signal, said determination being based on a comparison performed

for each of said different portions of the fiber optic cable.

Claim 22 (Currently Amended): The computer readable medium of claim 21,

wherein said program instructions further cause said system to determine said temperature

conditions ~~condition and location~~ based on an amplitude ~~and return time~~ of said ~~return~~

reflection signal.

Claim 23 (Currently Amended): The computer readable medium of claim 21,

wherein said program instructions further cause said system to determine said temperature

~~condition~~ conditions based on at least one of a threshold value and a comparison signal

corresponding to one of said portions.

Claim 24 (Currently Amended): The computer readable medium of claim 23,

wherein said program instructions further cause said system to adjust ~~at least one of~~ said

threshold value ~~and comparison signal~~ to detect different temperature conditions ~~in said fiber~~

~~optic cable~~.

Claim 25 (Currently Amended): The computer readable medium of claim 21, wherein said program instructions further cause said system to determine <u>a location for one of</u> <u>said</u> different portions of the fiber optic cable based on ~~different~~ <u>a</u> return ~~times~~ <u>time</u> of said reflection signal.

Claim 26 (Cancelled)

Claim 27 (Currently Amended): The computer readable medium of claim ~~26~~ <u>23</u>, wherein said program instructions further cause said system to adjust ~~each of said~~ ~~corresponding at least one of said threshold value and~~ <u>said</u> comparison signal to detect different temperature conditions ~~among said different portions of the fiber optic cable~~.

Claim 28 (Currently Amended): The computer readable medium of claim ~~21~~ <u>25</u>, wherein said program instructions further cause said system to determine said location by determining at least one of a location relative to an overall length of the fiber optic cable, and an absolute distance from one end of the fiber optic cable.

Claim 29 (Currently Amended): The computer readable medium of claim 21, wherein said program instructions further cause said system to determine at least one of a temperature duration and a temperature progression of said temperature ~~condition~~ <u>conditions</u> over a predetermined time interval.

Claim 30 (Original): The computer readable medium of claim 21, wherein said program instructions further cause said system to generate a signal to initiate at least one of an alarm, a safety measure and a corrective measure.

Claim 31 (New): The system of claim 1, wherein the said processor is configured to detect and recognize a temperature increase, said temperature increase being characteristic of a faulty escape of air from an aircraft pipe system.

Claim 32 (New): The system of claim 31, wherein said aircraft pipe system is a pressurized air system configured to deliver hot pressurized bleed air from an aircraft engine.

Claim 33 (New): The system of claim 1, wherein a break of said fiber optic cable is detectable with an end reflection signal, a portion of said cable between said break and said optical receiver remaining functional for monitoring a temperature condition.

Claim 34 (New): The system of claim 1, wherein said comparison is performed with respect to a comparison signal corresponding to one of said portions.

Claim 35 (New): The system of claim 3, wherein different thresholds are allocated to different portions of the fiber optic cable.

Claim 36 (New): The system of claim 3, wherein different thresholds are allocated to different ranges of a transit time of said reflection signal.